

08-16-04

few

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV522678251US, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: 8-13-04 Signature: Vickie Hoff  
(Vickie Hoff)

Docket No.: 385478006US  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Bennett M. Butters

Application No.: 10/805,066

Confirmation No.: 7922

Filed: March 19, 2004

Art Unit: 2877

For: **SYSTEM AND METHOD FOR SAMPLE  
DETECTION BASED ON LOW-  
FREQUENCY SPECTRAL  
COMPONENTS**

Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT (IDS)**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

Copies of only the foreign application references and non-patent literature references are attached.

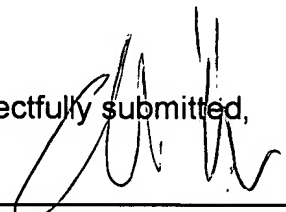
Application No.: 10/805,066

Docket No.: 385478006US

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0665, under Order No. 385478006US.

Dated: August 13, 2004

Respectfully submitted,

By   
Christopher J. Daley-Watson  
Registration No.: 34,807  
PERKINS COIE LLP  
P.O. Box 1247  
Seattle, Washington 98111-1247  
(206) 359-3599  
(206) 359-7198 (Fax)  
Attorneys for Applicants

## COMPLETE IF KNOWN

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANTForm PTO-1449 (Modified)  
Use several sheets if necessary)

Application Number	10/805,066
Confirmation Number	7922
Filing Date	March 19, 2004
First Named Inventor	Bennett Butters
Group Art Unit	2877
Examiner Name	Not Yet Assigned
Attorney Docket No.	385478006US

Sheet 1 of 5

## U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	U.S. Patent or Application		Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		NUMBER	Kind Code (if known)			
		4,095,168		Hlavka	06/13/1978	
		4,692,685		Blaze	09/08/1987	
		4,751,515		Corum	06/14/1988	
		5,343,147		Sager et al.	08/30/1994	
		5,458,142		Farmer et al.	10/17/1995	
		5,465,049		Matsuura et al.	11/07/1995	
		5,574,369		Hibbs	11/12/1996	
		5,583,432		Barnes	12/10/1996	
		5,656,937		Cantor	08/12/1997	
		5,734,353		Van Voorhies	03/31/1998	
		5,752,514		Okamura et al.	05/19/1998	
		5,789,961		Bulsara et al.	08/04/1998	
		5,952,978		Van Voorhies	09/14/1999	
		5,955,400		Yokosawa et al.	09/21/1999	
		5,959,548		Smith	09/29/1999	
		6,020,782		Albert et al.	02/01/2000	
		6,028,558		Van Voorhies	02/22/2000	
		6,136,541		Gulati	10/24/2000	
		6,142,681		Gulati	11/07/2000	
		6,196,057	B1	Discenzo	03/06/2001	
		6,204,821	B1	Zhu et al.	03/13/2001	
		6,285,249	B1	Bulsara et al.	09/04/2001	
		6,320,369	B1	Hidaka et al.	11/20/2001	
		6,323,632	B1	Husher et al.	11/27/2001	
		6,541,978	B1	Benveniste et al.	04/01/2003	

## FOREIGN PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No.	Foreign Patent or Application		Name of Patentee or Applicant of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	NUMBER Kind Code (if known)				
EXAMINER				DATE CONSIDERED			
*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to application(s).							

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Form PTO-1449 (Modified) (Use several sheets if necessary)				<b>COMPLETE IF KNOWN</b>	
				Application Number	10/805,066
				Confirmation Number	7922
				Filing Date	March 19, 2004
				First Named Inventor	Bennett Butters
				Group Art Unit	2877
				Examiner Name	Not Yet Assigned
Sheet	2	of	5	Attorney Docket No.	385478006US

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No.	Foreign Patent or Application			Name of Patentee or Applicant of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	NUMBER	Kind Code (if known)				
		WO	87/02981	A1	Centre Nat Rech Scient	05/21/1987		
		WO	91/13611	A1	Inst Nat Sante Rech Med	09/19/1991		
		WO	91/14181	A1	Inst Nat Sante Rech Med	09/19/1991		
		WO	94/17406	A1	Benveniste	08/04/1994		
		WO	99/54731	A1	Guillonnet et al.	10/28/1999		
		WO	00/01412	A1	Guillonnet et al.	01/13/2000		
		WO	00/17637	A1	Guillonnet et al.	03/30/2000		
		WO	00/17638	A1	Guillonnet et al.	03/30/2000		

OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	T
		AISSA et al., "Transatlantic Transfer of Digitized Antigen Signal by Telephone Link", Digi Bio-FASEB 97, Abstract only, < <a href="http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_3">http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_3</a> >	
		AISSA, et al., "Molecular signaling at high dilution or by means of electronic circuitry:", Journal of Immunology, 146A, 1994, Abstract only	
		BENVENISTE, et al., "Digital biology: Specificity of the digitized molecular signal", FASEB Journal, A412, 1997, Abstract only, < <a href="http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_2">http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_2</a> >	
		BENVENISTE, et al., "Digital Recording/Transmission of the Cholinergic Signal", DigiBio – FASEB 96, Abstract only, < <a href="http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_4">http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_4</a> >	
		BENVENISTE et al., "Specific Remote Detection of Bacteria Using an Electromagnetic/Digital Procedure", FASEB Journal, Volume 13, p. A852, 1999, Abstract only, < <a href="http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_12">http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_12</a> >	
		BENVENISTE et al., "The Molecular Signal is not Functional in the Absence of "Informed" Water", FASEB Journal, Volume 13, p. A163, 1999, Abstract only, < <a href="http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_11">http://digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_11</a> >	
		BENVENISTE et al., "A Simple and Fast Method for in Vivo Demonstration of Electromagnetic Molecular Signaling (EMS) via High Dilution or Computer Recording", FASEB Journal, Volume 13, p. A163, 1999, Abstract only	

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to application(s).	

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Form PTO-1449 (Modified) (Use several sheets if necessary)				<b>COMPLETE IF KNOWN</b>	
				Application Number	10/805,066
				Confirmation Number	7922
				Filing Date	March 19, 2004
				First Named Inventor	Bennett Butters
				Group Art Unit	2877
Examiner Name	Not Yet Assigned				
Attorney Docket No.	385478006US				
Sheet	3	of	5		

OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	T	
		BENVENISTE et al., "Digital Biology: Specificity of the Digitized Molecular Signal", FASEB Journal, Volume 12, p. A412, 1998, Abstract only		
		BENVENISTE, et al., "Electronic transmission of the cholinergic signal", FASEB Journal, A683, 1995, Abstract only		
		BENVENISTE, et al., "Transfer of molecular signals via electronic circuitry", FASEB Journal, A602, 1993, Abstract only		
		BENVENISTE, J., et al., "Transfer of the molecular signal by electronic amplification", FASEB Journal, A398, 1994, Abstract only		
		BENVENISTE, J., "Molecular Signaling, What Is So Unacceptable for Ultra-Orthodox Scientists?", 2 pages, < <a href="http://www.digibio.com/cgi-bin/node.pl?nd=n5">http://www.digibio.com/cgi-bin/node.pl?nd=n5</a> >.		
		BENVENISTE, J., "From 'Water Memory' effects To 'Digital Biology'... - Understanding Digital Biology", 4 pages, < <a href="http://www.digibio.com/cgi-bin/node.pl?nd=n3">http://www.digibio.com/cgi-bin/node.pl?nd=n3</a> >, June 14, 1998.		
		BINH, V., "An Analytical Survey of Theoretical Studies in the Area of Magnetoreception", 11 pages, < <a href="http://www.biomag.info/survey.htm">http://www.biomag.info/survey.htm</a> >, 1999		
		BRAULT, J., et al., "The Analysis and Restoration of Astronomical Data via the Fast Fourier Transform", Astronomy and Astrophysics, Volume 13, No. 2, July 1971, pp 169-189		
		BRIGHAM, E., "The Fast Fourier Transform and Applications", Prentice Hall, 1988, pp 131-145		
		DigiBio S.A., Experimental models, "From "Water Memory" effects to "Digital Biology", < <a href="http://digibio.com/cgi-bin/node.pl?nd=n7">http://digibio.com/cgi-bin/node.pl?nd=n7</a> >		
		"Direct Nanoscale Conversion of Bio-Molecular Signals Into Electronic Information" DARPA Defense Sciences Office, 2 pages, << <a href="http://www.darpa.mil/dso/thrust/biosci/moldice.htm">http://www.darpa.mil/dso/thrust/biosci/moldice.htm</a> >>		
		"Engineered Bio-Molecular Nano-Devices/Systems (MOLDICE)" DARPA Defense Sciences Office, 1 page, << <a href="http://www.darpa.mil/dso/thrust/biosci/moldice.htm">http://www.darpa.mil/dso/thrust/biosci/moldice.htm</a> >>		
		CHAPEAU-BLONDEAU, F., "Input-output gains for signal in noise in stochastic resonance", Physics Letters A, Vol. 232, pp. 41-48, July 21, 1997, Elsevier Science B.V.		

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to application(s).	

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Form PTO-1449 (Modified) (Use several sheets if necessary)				<b>COMPLETE IF KNOWN</b>	
				Application Number	10/805,066
				Confirmation Number	7922
				Filing Date	March 19, 2004
				First Named Inventor	Bennett Butters
				Group Art Unit	2877
				Examiner Name	Not Yet Assigned
Sheet	4	of	5	Attorney Docket No.	385478006US

OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	T
		CHAPEAU-BLONDEAU, F., "Periodic and Aperiodic Stochastic Resonance with Output Signal-to-Noise Ratio Exceeding That At The Input", International Journal of Bifurcation and Chaos, Vol. 9, No. 1, pp. 267-272, 1999, World Scientific Publishing Company.	
		DUHAMEL, P., et al., "'Split radix' FFT algorithm", Electronics Letters, The Institution of Electrical Engineers, Volume 20, No. 1, January 5, 1984, pp. 14-16.	
		GLANZ, J., "Sharpening the Senses with Neural 'Noise'", Science, Volume 277, No. 5333, September 19, 1997, 2 pages, < <a href="http://complex.gmu.edu/neural/papers/others/science97_noise.html">http://complex.gmu.edu/neural/papers/others/science97_noise.html</a> >	
		GORGUN, S., "Studies on the Interaction Between Electromagnetic Fields and Living Matter Neoplastic Cellular Culture.", 22 pages, < <a href="http://bodyvibes.com/study1.htm">http://bodyvibes.com/study1.htm</a> >	
		HOFFMAN, F., "An Introduction to Fourier Theory", 10 pages, < <a href="http://aurora.phys.utk.edu/~forrest/papers/fourier/index.html">http://aurora.phys.utk.edu/~forrest/papers/fourier/index.html</a> >	
		KAUFMAN, I. et al., "Zero-dispersion stochastic resonance in a model for a superconducting quantum interference device", Physical Review E, Vol. 57, No. 1, pp.78-87, January 1998, The American Physical Society.	
		NOKAZI, D., et al., "Effects of Colored Noise on Stochastic Resonance in Sensory Neurons", Physical Review Letters, The American Physical Society, Volume 82, No. 11, March 15, 1999, 4 pages	
		OPPENHEIM, et al., "Digital Signal Processing", Prentice-Hall, 1975, ISBN 0-13-214635-5, pp 87-121	
		PROAKIS, J.G., et al., "Advanced digital signal processing", Maxwell MacMillan, 1992, pp 31-57	
		SOMA, R., "Noise Outperforms White Noise in Sensitizing Baroreflex Function in the Human Brain", Physical Review Letters, Vol. 91, No. 7, 4 pages, August 15 2003, The American Physical Society	
		"The First International Workshop on TFF; What is Biophysics Behind?", Abstract Booklet, June 15, 1996, 18 pages, < <a href="http://www.biophysics.nl/idras.htm">http://www.biophysics.nl/idras.htm</a> >	

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to application(s).	

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Form PTO-1449 (Modified) (Use several sheets if necessary)				<b>COMPLETE IF KNOWN</b>	
				Application Number	10/805,066
				Confirmation Number	7922
				Filing Date	March 19, 2004
				First Named Inventor	Bennett Butters
				Group Art Unit	2877
Examiner Name	Not Yet Assigned				
Sheet	5	of	5	Attorney Docket No.	385478006US

OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	T
		THOMAS, Y., et al., "Activation of human neurophils by electronically transmitted phorbol-myristate acetate", Medical Hypotheses, Volume 54, No 1, pp 33-39	
		THOMAS, et al., "Direct transmission to cells of a molecular signal via an electronic device", FASEB Journal, A227, 1995, Abstract only	
		THOMAS, et al., "Modulation of Human Neutrophil Activation by "Electronic" Phorbol Myristate Acetate (PMA)", DigiBio, Abstract only, < <a href="http://www.digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_5">http://www.digibio.com/cgi-bin/node.pl?lg=us&amp;nd=n4_5</a> >	
		TURIN, L., "A spectroscopic mechanism for primary olfactory reception", Chemical Senses, Volume 21, No. 6, pp. 773-791	
		WEAVER, J., et al., "The response of living cells to very weak electrip fields: the thermal noise limit.", National Library of Medicine, 2 pages, March 2 1990, < <a href="http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed&amp;cmd=Retrieve&amp;list_uids=2300806&amp;dopt=Citation">http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed&amp;cmd=Retrieve&amp;list_uids=2300806&amp;dopt=Citation</a> >	

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to application(s).	